

CLAIMS

1. A dual stage current limiting surge protector system for protecting telecommunications equipment and the like from power and transient surges, comprising:

input tip and ring terminal pins;

output tip and ring terminal pins;

voltage suppressor means having first and second ends operatively coupled between said input tip and ring terminal pins;

the first and second ends of said voltage suppressor means being also operatively coupled between said output tip and ring terminal pins;

first and second current limiting devices interconnected between said input tip and ring terminal pins and the respective first and second ends of said voltage suppressor means; and

third and fourth current limiting devices interconnected between said output tip and ring terminal

pins and the respective first and second ends of said voltage suppressor means.

2. A dual stage current limiting surge protector system as claimed in Claim 1, wherein each of said third and fourth current limiting devices has a lower rated current value than each of said first and second current limiting devices.

3. A dual stage current limiting surge protector system as claimed in Claim 1, wherein each of said third and fourth current limiting devices has a rated current value of about 175 ma and each of said first and second current limiting devices has a rated current value of about 350 ma.

4. A dual stage current limiting surge protector system as claimed in Claim 1, wherein each of said third and fourth current limiting devices has a rated current value of about 80 ma and each of said first and second current limiting devices has a rated current value of about 160 ma.

5. A dual stage current limiting surge protector system as claimed in Claim 1, wherein said voltage suppressor means is comprised of a silicon avalanche suppressor.

6. A dual stage current limiting surge protector system as claimed in Claim 1, wherein said voltage suppressor means is comprised of a sidactor.

7. A dual stage current limiting surge protector system as claimed in Claim 1, wherein said voltage suppressor means is comprised of a gas discharge tube.

8. A dual stage current limiting surge protector system as claimed in Claim 1, further comprising second voltage suppressor means operatively coupled between said output tip and ring terminal pins.

9. A dual stage current limiting surge protector system for protecting telecommunications equipment and the like from power and transient surges, comprising:

input tip and ring terminal pins;

output tip and ring terminal pins;

voltage suppressor means having first and second ends operatively coupled between said input tip and ring terminal pins;

the first and second ends of said voltage suppressor means being also operatively coupled between said output tip and ring terminal pins;

first and second fuse elements interconnected between said input tip and ring terminal pins and the respective first and second ends of said voltage suppressor means; and

third and fourth current fuse elements interconnected between said output tip and ring terminal

pins and the respective first and second ends of said voltage suppressor means.

10. A dual stage current limiting surge protector system as claimed in Claim 9, wherein each of said third and fourth fuse elements has a lower rated current value than each of said first
5 and second fuse elements.

11. A dual stage current limiting surge protector system as claimed in Claim 9, wherein each of said third and fourth fuse elements has a rated current value of about 175 ma and each of said first
5 and second fuse elements has a rated current value of about 350 ma.

12. A dual stage current limiting surge protector system as
10 claimed in Claim 9, wherein said voltage suppressor means is comprised of a silicon avalanche suppressor.

13. A dual stage current limiting surge protector system as
claimed in Claim 9, wherein said voltage suppressor means is
15 comprised of a sidactor.

14. A dual stage current limiting surge protector system as claimed in Claim 9, wherein said voltage suppressor means is comprised of a gas discharge tube.

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15. A dual stage current limiting surge protector system as claimed in Claim 9, further comprising second voltage suppressor means operatively coupled between said output tip and ring terminal pins.

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25 16. A dual stage current limiting surge protector system for
protecting telecommunications equipment and the like from power and
transient surges, comprising:

input tip and ring terminal pins;

30 output tip and ring terminal pins;

35 voltage suppressor means having first and second
ends operatively coupled between said input tip and ring
terminal pins;

the first and second ends of said voltage suppressor
means being also operatively coupled between said output
tip and ring terminal pins;

40 first and second positive thermal coefficient
resistors interconnected between said input tip and ring
terminal pins and the respective first and second ends of
said voltage suppressor means; and

45 third and fourth positive thermal coefficient
resistors interconnected between said output tip and ring

terminal pins and the respective first and second ends of said voltage suppressor means.

17. A dual stage current limiting surge protector system as claimed in Claim 16, wherein each of said third and fourth positive thermal coefficient resistors has a lower rated current value than
5 each of said first and second positive thermal coefficient resistors.

18. A dual stage current limiting surge protector system as claimed in Claim 16, wherein each of said third and fourth positive thermal coefficient resistors has a rated current value of about 80 ma and each of said first and second positive thermal coefficient resistors has a rated current value of about 160 ma.

19. A dual stage current limiting surge protector system as claimed in Claim 16, wherein said voltage suppressor means is comprised of a silicon avalanche suppressor.

20. A dual stage current limiting surge protector system as claimed in Claim 16, wherein said voltage suppressor means is comprised of a sidactor.

21. A dual stage current limiting surge protector system as claimed in Claim 16, wherein said voltage suppressor means is comprised of a gas discharge tube.

22. A dual stage current limiting surge protector system as claimed in Claim 16, further comprising second voltage suppressor means operatively coupled between said output tip and ring terminal pins.